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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/988,122   | 11/19/2001  | Ilan Bloom           | P-4007-US           | 8188             |
| 27130  | 7590        | 06/02/2005           | EXAMINER            |                  |
| EITAN, PEARL, LATZER & COHEN ZEDEK LLP<br>10 ROCKEFELLER PLAZA, SUITE 1001<br>NEW YORK, NY 10020 |             |                      | BOOTH, RICHARD A    |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2812                |                  |

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/988,122 | <b>Applicant(s)</b><br>BLOOM ET AL. |  |
|                              | <b>Examiner</b><br>Richard A. Booth  | <b>Art Unit</b><br>2812             |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 3-8 and 16-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 9-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0104</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/29/04 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eitan et al., U.S. Patent 4,758,869 in view of Mitchell et al., U.S. Patent 5,120,672 and further in view of Cheung et al., U.S. Patent 6,156,149 and Wang, U.S. Patent 4,992,391.

Eitan et al. shows the invention substantially as claimed including forming a non-volatile memory device and forming a protective layer 12 over at least a portion of said non-volatile memory structure and to absorb electromagnetic energy having a wavelength shorter than visible light (see fig. 2 and col. 3-line 5 to col. 5-line 38).

Eitan fails to expressly disclose the non-volatile memory comprising a polycide structure formed over a non-conducting charge trapping layer, a resistive protective layer, and an additional layer over said protective layer.

Mitchell discloses forming a charge trapping layer of an ONO composite (see fig. 2 and abstract). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Eitan so as to include a non-conducting charge trapping layer because the use of ONO floating gate electrodes is a well known suitable alternative to the use of conducting charge trapping layers. Additionally, Cheung et al. discloses forming a protective layer to absorb light out of a resistive material (see col. 13-line 60 to col. 15-line 43). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of Eitan et al. modified by Mitchell so as to form a resistive protective material because Cheung et al. discloses these layers are also suitable for absorbing light.

Furthermore, Wang discloses a non-volatile memory including a polycide structure (18,20) and an additional layer 24 over the non-volatile memory (see figs. 2-4 and col. 3-line 30 to col. 4-line 49). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a polycide structure because this improves the conductivity of the memory structure.

Concerning the particular material used for the additional layer and as previously stated, official notice is taken that the use of both doped and undoped layers are well known in the art as overlying passivation layers, for instance, in providing moisture

protection to underlying devices and would have been obvious to include as the additional layer in the Wang reference.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eitan et al., U.S. Patent 4,758,869 in view of Mitchell et al., U.S. Patent 5,120,672 and further in view of Cheung et al., U.S. Patent 6,156,149 and Wang, U.S. Patent 4,992,391 as applied to claims 1-2 and 12-15 above, and further in view of Kimura et al., U.S. Patent 6,195,196.

Eitan et al., Mitchell et al., Cheung et al., and Wang are applied as above but do not expressly disclose the protection layer being highly resistive polysilicon.

Kimura et al. discloses using polysilicon as an ultraviolet absorber (see col. 18-lines 60-66). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process so as to form the protective layer of polysilicon because Kimura et al. teaches this to be an effective material to absorb ultraviolet radiation.

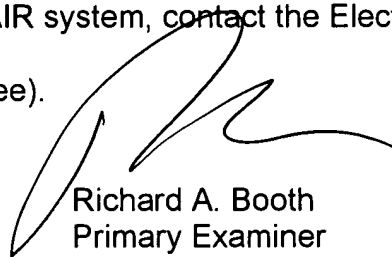
Concerning the particular resistivity of the polysilicon, it would have been obvious to one of ordinary skill in the art to determine through routine experimentation the optimum resistivity of the polysilicon based upon a variety of factors including the desired electrical characteristics of the layer and such limitation would not lend patentability to the instant application absent the showing of unexpected results.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A. Booth whose telephone number is (571) 272-1668. The examiner can normally be reached on Monday-Thursday from 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Richard A. Booth  
Primary Examiner  
Art Unit 2812

May 30, 2005